

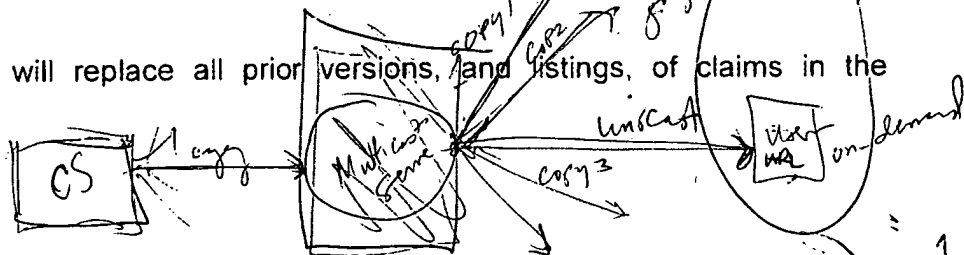
3451
4551
3701
7071
375/354,356

on-demand
725/101

10/545473
Attorney Docket No. P18906-US1

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:



Listing of Claims

1. (Currently Amended) A method in an intermediate node comprising a multicast/broadcast server and a streaming node Method for providing multicast for streaming transmission from a streaming server to users of a multicast group with the [[a]] multicast/broadcast server providing multicast transmission and with the [[a]] streaming node providing a streaming transmission based on an on-demand single-user signalling supporting the transmission of a streaming flow, the method comprising the steps of: characterised in that [Abstract] [Col 6, 8-10] [Fig 2]

an intermediate node is provided including the multicast/broadcast server and the streaming node with the following

—the intermediate node establishing establishes a bearer for a multicast transmission according to the requirements for streaming transmission, [Col 7, 11-22]

—the intermediate node establishing establishes a multi-user streaming session on the bearer by translating the on-demand single-user signalling received from the streaming server into multi-user push signalling, (e.g. Video-On-Demand) [Col 7, 236]

—the intermediate node adapts adapting the received streaming flow to the multicast transmission according to the needs of a multicast group or subgroup of a multicast group; (unicast/multicast) [ditto]

—the intermediate node replicates replicating the received streaming transmission according to the number of the multicast subgroups.

2. (Currently Amended) The method according to claim 1 further comprising the step of characterised in that the streaming node communicating with the server adapts the streaming transmission and forwards the adapted streaming transmission to the multicast/broadcast server, which replicates the received streaming transmission among subgroups of a multicast group.

3. (Currently Amended) The method according to claim 1 further comprising the step of characterised in that the multicast/broadcast server communicating with the server replicates the received streaming transmission among the subgroups of a multicast group and forwards each replicated streaming transmission to the streaming node, which adapts each streaming transmission.

4. (Currently Amended) The method according to claim 1 wherein ~~2 or 3 characterised in that~~ a decision unit is provided for deciding how the received streaming flow is to be directed in the intermediate node. *(broadcast / multicast / unicast)* []

5. (Currently Amended) The method according to claim 3 wherein ~~or 4 characterised in that~~ the streaming nodes have different capabilities and the multicast/broadcast server knows the different capabilities and addresses of the streaming nodes in order to select an appropriate streaming node for performing an appropriate adaptation of the streaming flow.

6. (Currently Amended) The method according to claim 5 wherein ~~characterised in that~~ in case a hierarchical coding is used the streaming flows are differentiated in the sense that a different number of layers is sent to different streaming nodes. *any way*

7. (Currently Amended) The method according to claim 1, wherein ~~one of the claims 1 to 6 characterised in that~~ the intermediate node administrates an address identifying the streaming flow arriving from the server. *no*

8. (Currently Amended) The method according to claim 1, wherein ~~one of the claims 1 to 7 characterised in that~~ the intermediate node receives a session description message informing about the transmission parameters required for the streaming session and forwards the received parameters to the group members by means of the multi-user push signalling message. *?*

9. (Currently Amended) The method according to claim 1, wherein one
~~of the claims 1 to 7 characterised in that~~ the intermediate node receives a session
description message informing about the transmission parameters required for the
streaming session and said intermediate node changes the received parameters
according to the needs of the subgroups that receive a dedicated replicated stream and
sends the changed parameter to the group members by means of the multi-user push
signalling message.

10. (Currently Amended) The method according to claim 9 wherein
~~characterised in that~~ nodes higher up in the hierarchy are informed that the streaming
flow is only to be forwarded to a single node lower in the hierarchy by means of a new
message being distributed along the multicast delivery tree.

11. (Currently Amended) The method according to claim 1 wherein one
~~of the claims 1 to 10 characterised in that~~ the conversion between single-user on-
demand and multi- user push signalling implies that certain messages are not
propagated.

12. (Currently Amended) The method according to claim 1 wherein one
~~of the claims 1 to 11 characterised in that~~ the replication of the streaming flow is based
on an access network, in which users are located or/and on the geographic area and/or
on the Quality of Service a subgroup wishes for streaming sessions.

13. (Currently Amended) The method according to claim 12 wherein
~~characterised in that~~ the intermediate node requests the actual characteristics of the
area in order to adapt the streaming flow accordingly.

14. (Currently Amended) The method according to claim 1 wherein one
~~of the claims 1 to 13 characterised in that~~ the intermediate node provides additional

information to the charging/billing server in order to guarantee an accurate charging and/or multi-user streaming related charging.

15. (Currently Amended) An intermediate ~~Intermediate~~ node being adapted to provide multicast for streaming transmission from a streaming server to group members of a multicast group with a multicast/broadcast server providing multicast transmission and with a streaming node providing a streaming transmission based on an on-demand single-user signalling supporting the transmission of a streaming flow wherein ~~characterised in that~~

said intermediate node comprises: ~~includes~~

means for receiving the streaming transmission;

the multicast/broadcast server, which includes ~~and the streaming node~~
~~with the following—~~

bearer establishing means in multicast/broadcast server for establishing a bearer for a multicast transmission according to the requirements for streaming transmission received from the server,

- session establishing means in multicast/broadcast server for establishing a multi-user streaming session on the bearer by translating the on-demand single-user signalling received from the streaming server into multi-user push signaling;.

the streaming node, which includes

- adaptation means in the streaming node for adapting the received streaming flow to the multicast transmission according to the needs of a multicast group, and

replication means for replicating ~~replication~~ of the received streaming transmission according the number of the multicast subgroups.

16. (Currently Amended) A system ~~System~~ being adapted to provide multicast for streaming transmission from a streaming server to group members of a multicast group with a multicast/broadcast server providing multicast transmission and with a streaming node providing a streaming transmission based on an on-demand

single-user signaling supporting the transmission of a streaming flow, the system comprising characterised in that said system has an intermediate node according to claim 15 and the method according to claim 1 is performed within the system.

an intermediate node for receiving the streaming transmission and:

establishing a bearer for a multicast transmission according to the requirements for streaming transmission,

establishing a multi-user streaming session on the bearer by translating the on-demand single-user signaling received from the streaming server into multi-user push signaling;

adapting the received streaming flow to the multicast transmission according to the needs of a multicast group or subgroup of a multicast group; and

replicating the received streaming transmission according to the number of the multicast subgroups.